

REMARKS

The Examiner has advanced a ten way (10) Restriction Requirement. Consequently, the Examiner requires Applicants to elect one of ten (10) inventions allegedly disclosed in the above application vis-à-vis Groups I-X (1-10).

With respect to the restriction requirement:

Group I, claims 1-6 and 16, drawn to an isolated cDNA encoding KCN5 protein, vectors and host cells comprising said DNA, isolated DNA that hybridizes to SEQ ID NO: 1 or 2, and probes comprising at least 18 nucleotides of SEQ ID NO: 1 or 2.

Group II, claims 7-10, drawn to an isolated KCNQ5 protein.

Group III, claim 11, drawn to an antibody that binds to a KCNQ5 protein.

Group IV, claim 12, drawn to a method of diagnosing disease by determining the DNA sequence of a region of the KCNQ5 gene in a patient compared to a non-affected person.

Group V, claims 13-15, drawn to a method of diagnosing whether a patient carries a mutation in the KCNQ5 gene by determining the sequence of said gene and comparing it to SEQ ID NO: 1 or 2.

Group VI, claims 17-18, drawn to a method for determining whether a substance is an inhibitor of KCNQ5, or a method of identifying an inhibitor of KCNQ5, comprising measuring the biological activity of KCNQ5 by measuring membrane potassium currents.

Group VII, claims 17 and 19, drawn to a method for determining whether a substance is an activator of KCNQ5, or a method of identifying an activator of KCNQ5, comprising measuring biological activity of KCNQ5 by measuring fluorescence resonance energy transfer.

Group VIII, claims 17 and 20, drawn to a method for determining whether a substance is an inhibitor of KCNQ5, or a method of identifying an inhibitor of KCNQ5, comprising measuring the biological activity of KCNQ5 by measuring fluorescence resonance energy transfer.

Group IX, claim 21, drawn to a method of treatment comprising administering an activator of a voltage gated potassium channel containing the KCNQ5 protein.

Group X, claim 21, drawn to a method of treatment comprising administering an inhibitor of a voltage-gated potassium channel containing the KCNQ5 protein.

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For reasons appearing below, Applicants respectfully traverse the outstanding restriction/election of species requirement as set forth in the above referenced Office Action.

Restriction of Group 1 claims (claims 1-6 and 16); Group IV (claim 12) and Group V (claims 13-15) under 35 U.S.C. 120 is respectfully traversed. It is respectfully submitted that a search of the Group 1 claims, drawn to, *inter alia*, cDNA encoding the KCN5 protein, host cells, vectors etc. would, of necessity, include a search of the Group IV claim. As such, no savings of PTO resources will be achieved by enforcing the restriction requirement presently asserted. Accordingly, reconsideration and withdrawal of the requirement for restriction and/or regrouping of the claims, e.g., by combining Groups I, IV and V is respectfully requested. Similar arguments apply for the group II, III claims.

In order to be fully responsive, Applicants elect the invention defined by the Group I claims (i.e., claims 1-6 and 16) without prejudice to the prosecution of the non-elected claims in a related patent application.

As well, Applicants elect the species defined by SEQ ID NO:1.

Applicants retain the right to petition from the restriction requirement under 37 C.F.R. §1.144. Favorable reconsideration of the Restriction requirement is respectfully requested.

It is believed that the claims are in a condition for allowance and a notice to that effect is earnestly solicited.

If the Examiner believes that a telephone conference would be of value, he is requested to call the undersigned counsel at the number listed below.

Any additional fees required in connection with this submission may be taken from Merck Deposit Account No. 13-2755.

Respectfully submitted,

By 
Vineet Kohli
Reg. No. 37,003
Attorney for Applicant

MERCK & CO., INC.
P.O. Box 2000
Rahway, New Jersey 07065-0907

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